

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (Currently amended) A method of automatic navigation assistance for an aircraft, comprising the steps of:

~~aircraft~~ capturing a predetermined vertical profile segment ~~aircraft~~ in a capture zone;

applying a transition between a first guidance submode which the aircraft is in, and a second guidance submode adapted to follow the vertical profile segment ~~to be~~ which is captured; and

determining a width of the capture zone as a function of the height  $h$  of the vertical profile segment ~~to be captured~~ and of the speed  $v$  of the aircraft when plumb with this ~~height~~ vertical profile segment and when the aircraft is not on the vertical profile segment, and at this height when the aircraft is on the vertical profile segment.

2. (Previously Presented) The method as claimed in claim 1, wherein the width of the capture zone is determined as a function of the height  $h$  and of the square of the speed  $v$ .

3. (Previously Presented) The method as claimed in claim 1, wherein the width of the capture zone is equal to around  $2\Delta h$  with

$$\Delta h = h' - h = h_s + \left[ h + \frac{v^2}{2g} \right] \frac{1}{K}$$

$h'$  being the height of the upper bound of the capture zone,  $h_s$  a safety height,  $g$  the terrestrial acceleration and  $K$  an adaptation constant.

4. (Previously Presented) A device for automatic navigation assistance for an aircraft having a program memory, comprising:

the program memory has a program for computing the width of a capture zone, the capture zone being a zone in which the aircraft can capture a predetermined vertical profile segment by applying a transition between a first guidance submode which the aircraft is currently in and a second guidance submode adapted to follow the vertical profile segment to be captured, a width of the capture zone being calculated as a function of a height  $h$  of the vertical profile segment to be captured and of a speed  $v$  of the aircraft when plumb with the height  $h$  when the aircraft is not on the vertical profile segment and at the height  $h$  when the aircraft is on the vertical profile segment.

5. (Previously Presented) The device as claimed in claim 4, wherein the program memory includes a program for computing the width of a capture zone as a function of the height  $h$  and of the square of the speed  $v$ .

6. (Previously Presented) The device as claimed in claim 4, wherein the width of the capture zone is equal to around  $2\Delta h$  with

$$\Delta h = h' \cdot h = h_s + \left[ h + \frac{v^2}{2g} \right] \frac{1}{K}$$

$h'$  being the height of the upper bound of the capture zone,  $h_s$  a safety height,  $g$  the terrestrial acceleration and  $K$  an adaptation constant.